



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS



System of
Environmental
Economic
Accounting

SEEA Central Framework 2028 update

Scoping note for issue D7: “Valuation of Water”

Version for SEEA CF Technical Committee review, July 2025

Prepared by: Carl Obst

Note: This note is prepared in the context of the SEEA Central Framework update, mandated by the United Nations Statistical Commission in 2024, expected to finish by 2028. There are 29 update issues, and the initial task is establishing a clear scope for all of the issues. This scoping note provides a short description of a specific issue with the aim of supporting a common understanding of the work that will be needed to fully investigate and articulate the alternative approaches and recommendations for change or addition to the SEEA Central Framework. Scoping notes will be discussed by the relevant task team and inform on the further work related to the issue.

1 Background to the issue

1. The short description of issue D7 “Valuation of Water” from October 2024 is:

“There are multiple issues surrounding the valuation of water in the SEEA CF. Firstly, the asset boundary of water in the SEEA CF is very broad and includes, in principle, all inland bodies of water, not all of which are able to be valued. In addition, water prices are seldom "market" or "near market". Water is often provided free of charge or at prices which do not reflect the costs of providing the related services, thus leading to a non-positive resource rent. However, avoiding economic valuation of water beyond market prices hinders the ability of the accounts to answer policy questions.”
2. The SEEA Central Framework (SEEA CF) considers the issue of the valuation of water resources in section 5.11.4 and provides 5 paragraphs covering the state of play – essentially reinforcing the challenges of valuing water resources using the types of approaches used for other natural resources. The SEEA CF further identifies the valuation of water as a specific item on the research agenda.
3. The SEEA Water provides a longer discussion on the valuation of water in Chapter VIII. It identifies and discusses a range of challenges, discusses different techniques and considers different applications and examples of calculations. While not providing definitive solutions it does appear to provide an excellent breadth of discussion and a good base for investigation.
4. The SEEA Ecosystem Accounting does not directly consider the valuation of water resources. Rather it focuses on valuation of water-related ecosystem services (water regulation, water purification, flood mitigation, etc) and also develops a framework for the valuation of water bodies and similar ecosystem types through the attribution of ecosystem service values to specific ecosystem types. For example, the ecosystem services of recreation and fish biomass associated with a lake would be captured. Further, while SEEA EA provides a description of methods that are relevant for valuation of ecosystem services, it does not provide guidance on how those methods might be applied for specific ecosystem services.
5. However, there is a specific overlap between the SEEA EA and the SEEA CF relating to the valuation of water resources in the case of valuing water provisioning services which relates to the abstraction of water by economic units. There is an ongoing discussion as to whether this abstraction should be considered an ecosystem service or an abiotic flow but, irrespective of this treatment, the valuation of water provisioning services will directly relate to the valuation of the abstraction of water in the framing of the SEEA CF.
6. The 2025 SNA does not provide notable guidance on the valuation of water. While water resources are definitively within the scope of natural resources, to be recorded they must satisfy the definition of an economic asset and hence have clear flows of benefits and clear economic ownership. Both of these elements may be difficult to identify. Depending on the context, water resources may be captured with the valuation of land (Para 11.194) but that paragraph also notes that where water is regularly extracted for use in production, the value should be included under water resources. There is the possibility that values relating to hydro power will be captured under the new asset category of renewable energy resources. However, the primary text on water resources specifically is limited to the following two sentences

2025 SNA 11.203 : “Water resources (AN34) consist of surface and groundwater resources used for extraction to the extent that their scarcity leads to the enforcement of ownership and/or use rights, market valuation and some measure of economic

control. If it is not possible to separate the value of surface water from the associated land, the whole should be allocated to the category representing the greater part of the total value.”

7. Beyond the SEEA and SNA documents, a comprehensive review paper on accounting for water by Vardon, Oleson and May was presented at the 2024 London Group meeting. An extended discussion on the valuation of water was included and this will be a very useful starting point for investigation of this issue. In addition, there is an extensive literature on the valuation of water that will need to be considered and there is an increasing range of data and measurement examples for water and water use.

2 Motivation for considering a change to the SEEA Central Framework

8. Although accounting for water has been well-established in the SEEA context for many years the valuation of water has remained an elusive goal. Notwithstanding the challenges from an accounting perspective there is little doubt of the economic and social importance of water and hence better understanding its relative value and how this is changing over time is an important set of information for decision making. At present, the SEEA CF provides no real guidance to compilers and this has been recognised as a limitation / gap for many years. The SEEA should be in a position, given the volume of currently available research and existing practice, to provide appropriate guidance and support in this area of measurement.

3 Nature of the proposed change and research questions

9. The broad topic that requires investigation concerns the appropriate valuation concepts and methods that should be applied for the valuation of water in water resources asset accounts and the monetary supply and use table for water. Ultimately, there is a question about whether the SEEA CF can provide more definitive guidance on the valuation of water compared to the current SEEA CF and other manuals including the SNA and SEEA Water.
10. Building on all of the existing material, including the materials described in the introduction, the following specific research issues may be considered:
 - a. What is the specific target of valuation, for example, the total stock of water, the value of abstracted water, changes in the stocks of water resources; and what are the relationships among these values?
 - b. What scope of water resources should be considered, for example, only those water resources where there is abstraction; and whether groundwater, rivers and lakes and artificial reservoirs should all be included?
 - c. Should the valuation of all ecosystem services and abiotic flows supplied by water resources be considered, including passive uses of water? In considering this question the links to the valuation coverage of the SEEA Ecosystem Accounting should be considered.
 - d. What valuation framework and concepts should be applied?
 - e. How should issues of water scarcity (and abundance) and the zero problem (i.e. the final litre of water having infinite value) be considered?

- f. How should water quality be taken into account?
 - g. How can entries in the SNA supply and use table (in monetary terms) best support the compilation of monetary supply and use tables for water?
 - h. How should valuation methods account for variation in prices across catchments within a country?
 - i. Should alternative and complementary valuations of water be described in the SEEA CF?
11. The work on scoping the water resources that should be focus of valuation should also consider the findings of the proposed initial note on clarifying the measurement boundary for environmental assets as proposed under Issue D1.

4 Links to other SEEA CF update issues

12. In taking forward work on the valuation of water, there are not too many links to other SEEA CF update issues since the specific methodological issues that are the prime focus of this update issue are not directly relevant to other issues. At the same time, the findings from the work on the valuation of water should be aligned with discussion on
- a. Issue A1 – Overview of the links between SEEA CF and SEEA EA: Since the valuation of water will require understanding the role of the valuation of ecosystem services and ecosystem assets in relation to the valuation of water resources.
 - b. Issue A4 – How SEEA CF accounts can be made spatially explicit: Since water resources are ideally accounted for on a catchment basis, the valuation of water will need to consider the ways in which methods can be applied at sub-national level.
 - c. Issue A9 – Consistency with the 2025 SNA. Given the limited discussion of the valuation of water resources in the 2025 SNA, it will be relevant to ensure that the investigation supports aligned accounting across SNA balance sheets and SEEA asset accounts.
 - d. Issue D4 – Treatment of water as a produced asset. The measurement boundary proposed under this issue should be aligned with any considerations for the measurement scope for the valuation of water resources more generally.

5 Existing materials

13. Potential materials that may be considered in developing the Guidance note include (but are not limited to):
- a. SEEA Water
 - b. 2025 SNA
 - c. Vardon, Oleson & May, 2024 Paper to the London Group on Accounting for water
 - d. SEEA Ecosystem Accounting

- e. UNSD Guidance on the valuation of ecosystem services and ecosystem assets
 - f. Wider literature on the economics of water
- 14. In developing the Guidance note it will be necessary to identify the relevant experts and stakeholders for the purposes of both drafting the content of the note and also ensuring appropriately wide consultation. These experts and stakeholders have not been identified at this stage.